

Name: _____

Remediation – Properties of Exponents

After you have watched the video from the wiki, you should try the following problems and then use the key to check your work. If you are successful on this worksheet, take the re-evaluation quiz. Be sure to follow the directions there.

Directions: Please simplify the following expressions. Express your answer with only positive exponents. Show your work. Express any non-integer answers as non-mixed fractions. Do not use decimals. Do not round.

1. $-x(3x^2)(2x^7)$

$-6x^9$

2. $-4xy^4(3x^{-2}y)(2x^7)$

$-24x^6y^5$

3. $-4a^3b^4(3a^{-2}b)(2b^{-9})$

$-24ab^{-4}$
 $-\frac{24a}{b^4}$

4. $\frac{-4xy^7}{2xy}$

$-2y^6$

5. $\frac{-10ab^7(3a^2b^{-2})}{6ab}$

$-\frac{30a^3b^5}{6ab}$
 $-5a^2b^4$

6. $\frac{6 \cdot \frac{2r^3w}{rw} \cdot \frac{r^{-3}w}{w^{-5}}}{1}$

$\frac{12r^0w^2}{rw^{-4}}$
 $\frac{12w^6}{r}$

7. $(2x^7)^3(4x)^2$

$8x^{21}(16x^2)$
 $128x^{23}$

8. $(-xy^{-2})^4$

$(-1)^4x^4y^{-8}$
 $\frac{x^4}{y^8}$

9. $\frac{(-3pd^2)^5}{pd^5}$

$-\frac{125p^5d^{10}}{pd^5}$
 $-125p^4d^5$

10. $\left(\frac{-2g}{7h^3}\right)^4$

$\frac{16g^4}{2401h^{12}}$

11. $\left(\frac{5y^{-3}}{x}\right)^{-3}$

$\frac{5^{-3}y^9}{x^{-3}}$
 $\frac{x^3y^9}{125}$

12. $\left(\frac{1}{-3xy}\right)^{-2}$

$(-3xy)^2$
 $9x^2y^2$